

**ABSTRACT**

Disclosed is a multiple test system for use in vehicles for inspecting the operation of an ignition system, more particularly, which upon application of a high voltage to an ignition plug, 5 outputs the waveform of the high voltage from the ignition plug by detecting the same with a Hall sensor so that the high voltage can be compared with a reference voltage having a predetermined high voltage waveform in order to inspect whether the ignition system operates normally. The test system of the invention is 10 connected to a cable of the ignition plug via the Hall sensor, and sets a reference voltage with respect to the high voltage waveform to compare the high voltage waveform from the ignition plug with the reference value in order to calculate maximum, minimum and mean values of the voltage waveform. Ignition energy 15 is inspected based upon output results so that a user can readily judge whether to replace a component or not. The test system of the invention can also inspect engine RPM, the voltage/current of an electric generator, the compression pressure of a cylinder and resistance as well as ignition energy.